

### ***Listing of the Claims***

This listing of claims will replace all prior versions, and listings of claims in the application.

49. (Currently amended) One or more populations of gold-containing scattered light-detectable particles, said particles ~~comprising gold and~~ having a size diameter between of 1 and to 500 nm inclusive, wherein ~~when each said population is on a surface at a particle density of less than 0.1 particles per  $\mu\text{m}^2$ , and illuminated by white light,~~ the color of scattered light scattered by at least 90% of said particles of each said population upon illumination of each said population on a surface at a particle density of less than 0.1 particles per  $\mu\text{m}^2$  with white light is indistinguishable to the human eye when viewed with less than 500 times magnification and without electronic amplification, and wherein said particles comprise at least one additional material on their surfaces.
50. (Currently amended) The populations of claim 49, wherein said at least one additional material does not ~~significantly~~ interact with light in the visible region of the spectrum.
51. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a protein, a nucleic acid, a peptide or a carbohydrate.
52. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a polymer.
- 53-54. (canceled)

55. (Previously presented) The populations of claim 49, wherein said particles are spherical, oval or ellipsoidal.
- 56-59. (canceled)
60. (Currently amended) The populations of claim 49, wherein for one or more of said populations the coefficient of variation in size ~~of~~ within said ~~particles~~ one or more populations is less than 5%.
61. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a surface coat of gold.
62. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a surface coat of silver or silver alloy.
63. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal, a metal compound, a metal oxide, a semiconductor or a superconductor.
- 64-65. (canceled)
66. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal-like material.
67. (canceled)
68. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a non-metal-like material.
- 69-70. (canceled)

71. (Previously amended) The populations of claim 49, wherein for one or more of said populations said particles further comprise a magnetic or ferroelectric material.
72. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a mixture of metal-like materials and a magnetic or ferroelectric material.
73. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and a magnetic or ferroelectric material.
- 74-75. (Canceled)
76. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.
- 77-79. (Canceled)
80. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size between 5 and 50 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.
- 81-83. (Canceled)
84. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size of ~~about 10, about 15, about 20, about 30, about 40, about 60, about 80, about 100 and about~~

~~150 nm~~ between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

85-87. (Canceled)

88. (Previously presented) The populations of claim 49, wherein for one or more of said populations the coefficient of variation in size of said particles is less than 5%.

89-165. (Canceled)

166. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a binding agent capable of binding specifically to a predetermined analyte.

167. (Previously presented) The populations of claim 166, wherein there is a detectable difference in the color of the scattered light scattered by two or more populations ~~is distinguishably different~~, and wherein said binding agent of each said two or more populations is different and is capable of binding different predetermined analytes.

168. (Currently amended) The populations of claim ~~166~~ 49, wherein for one or more of said populations said binding agent comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

169. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of base molecules

170. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of different base molecules.
171. (Previously presented) The populations of claim 168 or 169, wherein for one or more of said populations said base molecules comprise a gelatin, a polyethylene glycol, a carbohydrate, a polyamino acid or a protein.
172. (Previously presented) The populations of claim 168, wherein for one or more of said populations said at least one additional material further comprises a binding agent that is bound to said base molecules, and wherein said binding agent is capable of binding specifically to a predetermined analyte.
173. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles are of a size of ~~about 10, about 16, about 20, about 30, about 40, about 50, about 60, about 70, about 80, about 100, about 120, about 140, about 150, about 160, about 200 or about 300 nm~~ between 10 and 300 nm.
174. (Currently amended) The populations of claim 62, wherein for one or more of said populations said surface coat is ~~about 0.5, about 0.8, about 1, about 3, about 4, about 5, about 9, about 19, about 39, about 49 or about 74 nm thick~~.
175. (Currently amended) The populations of claim 61, wherein for one or more of said populations said surface coat is ~~about 0.5, about 1.5, about 2, about 4, about 5, about 6, about 10, about 12 or about 20 nm thick~~.

176. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles are of a size of ~~about 60 to nm, about 100 nm or about~~ 120 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.
177. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles are of a size of ~~about~~ 80 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.
178. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles are of a size of ~~about 40 nm, about 80 nm or about to~~ 100 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.
179. (Currently amended) The populations of claim 62, wherein for one or more of said populations said particles are of a size of ~~about~~ 60 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

180. (Currently amended) The populations of claim 49, wherein for one or more of said populations said particles are of a size of ~~about~~ 80 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies or antiluorescein antibodies.
181. (Currently amended) The populations of claim 62, wherein for one or more of said populations said particles are of a size of ~~about~~ 60 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies or antiluorescein antibodies.
- 182-216. (Canceled)